

What is claimed is:

1. A low-emission adhesive based on an aqueous, protective-colloid-free polymer dispersion or water-redispersible dispersion powders, obtainable therefrom, of vinyl acetate-ethylene copolymers, obtainable by free-radically initiated emulsion polymerization, in aqueous medium and in the presence of at least one emulsifier, of a comonomer mixture comprising

a) from 5 to 50% by weight of ethylene,

b) from 20 to 80% by weight of at least one vinyl ester selected from the group consisting of vinyl esters of unbranched or branched carboxylic acids having 1 to 9 carbon atoms whose homopolymers have a glass transition temperature $T_g > 0^\circ C$,

c) from 5 to 70% by weight of at least one vinyl ester selected from the group consisting of a vinyl ester of a branched carboxylic acids having 8 to 13 carbon atoms whose homopolymers have a glass transition temperature $T_g < 0^{\circ}\text{C}$,

d) from 0.5 to 10% by weight of at least one ethylenically unsaturated monocarboxylic or dicarboxylic acid having 3 or 4 carbon atoms,

e) from 0 to 10% by weight of at least one ethylenically unsaturated, hydroxyalkyl-functional comonomer,

f) from 0 to 10% by weight of a further mono- or polyethylenically unsaturated comonomer,

the % by weight being based in each case on the overall weight of the comonomers and adding up to 100% by weight, and the dispersion obtained therewith being dried if desired.

2. The low-emission adhesive as claimed in claim 1, wherein vinyl esters b) copolymerized are at least one member selected from the group consisting of vinyl acetate, vinyl propionate, vinyl butyrate, 1-methylvinyl acetate, vinyl pivalate, and vinyl esters of α -branched monocarboxylic acids having 9 carbon atoms.

3. The low-emission adhesive as claimed in claim 1, wherein vinyl esters c) copolymerized are at least one member selected from the group consisting of vinyl 2-ethylhexanoate, vinyl laurate, vinyl esters of α -branched monocarboxylic acids having 10 or 11 carbon atoms, and vinyl esters of branched monocarboxylic acids having 10 to 13 carbon atoms.

4. The low-emission adhesive as claimed in claim 1, wherein the copolymerized comonomer d) comprises at least one member selected from the group consisting of acrylic acid, methacrylic acid, itaconic acid, fumaric acid, and maleic acid.

5. The low-emission adhesive as claimed in claim 1, wherein the copolymerized comonomer e) comprises at least one member selected from the group consisting of methacrylic and acrylic hydroxyalkyl esters having a C₁ to C₅ alkyl radical.

6. The low-emission adhesive as claimed in claim 1, wherein copolymerized comonomer f) comprises at least one member selected from the group consisting of ethylenically unsaturated carboxamides, ethylenically unsaturated sulfonic acids and their salts, and vinylpyrrolidone.

7. The low-emission adhesive as claimed in claim 1, wherein said vinyl acetate-ethylene copolymer is a copolymer of a) from 10 to 40% by weight of ethylene, b) from 35 to 70% by weight of vinyl acetate, c) from 10 to 45% by weight of VeoVa10® and/or VeoVall®, d) from 2 to 6% by weight of acrylic acid and/or methacrylic acid, e) from 0 to 5% by weight of hydroxyethyl acrylate, and f) from 0 to 2% by weight of acrylamide.

8. A process of adhering a covering to a substrate which comprises applying to at least a portion of at least one of the covering and substrate surfaces, an adhesive-effective amount of

30b
C1

the low-emission adhesive of any of Claims 1 to 7, and contacting the surfaces of the covering and the substrate.

9. The process of Claim 8 wherein the covering is flooring.

5b
B3

10. The process of Claim 8 wherein the covering is a ceiling covering

add a2

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